

**University of Queensland
Quantum Information and
Computation Summer School**

Overview of the school

Monday: Basic background on quantum mechanics, computer science, and information theory.

Tuesday, Wednesday, Thursday (morning), Friday (morning): Pedagogical lectures on quantum information and computation.

Monday, Tuesday, Wednesday: Afternoon tutorial sessions. **Worked problems** **Q & A**

The name of your tutor, and a map showing your tutorial room is in your summer school materials.

Wednesday evening: Public lecture by Bob Clark (UNSW).

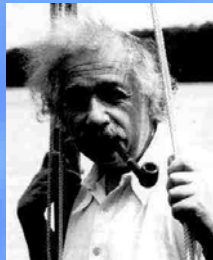
Thursday, Friday: Afternoon research seminars.

Required Background

What you don't need: quantum mechanics, computer science, or information theory.



Don't be concerned if you don't know all this stuff!



Required Background

What you don't need: quantum mechanics, computer science, or information theory.



Don't be concerned if you don't know all this stuff!



What you do need: elementary linear algebra, mathematical maturity of a third or fourth year undergrad.

Philosophy and goals of the school

Pedagogical lectures given by a small number of lecturers.

Focus of the pedagogical lectures is on theory.

Worldwide, theory is ahead of experiment.

In Australia, experiment is the main focus.

Too many experimental proposals to do justice.

Focus in pedagogical lectures is general principles (Andrew White).

Australia's experimental effort discussed in the research seminars.

Broad aim is to bring you up to the cutting edge of research in some parts of the field, and to make it easier to get to the edge in other parts of the field.

Miscellany

A hardcopy of the viewgraphs will be handed out each morning.

Many viewgraphs will be available at:
<http://www.physics.uq.edu.au/qicss>

Lab tours: Tuesday: White
 Wednesday: Rubinsztein-Dunlop/Heckenberg
 Thursday: Meredith

Computers available in computer room, level 1 of Physics Annexe (building 6) between 12:00pm and 2:30pm.

Questions?

Organizing committee

Michael Bremner
Jennifer Dodd
Anna Rogers

Tutors

Michael Bremner
Paul Cochrane
Chris Dawson
Jennifer Dodd
Alexei Gilchrist
Sarah Morrison
Duncan Mortimer
Tobias Osborne
Rodney Polkinghorne
Damian Pope